

Empowering Community Health Worker to Reduce Stunting Among Toddlers: Systematic Review

Mepsa Putra^{*}, Ety Rekawati, Henny Permatasari, Indah Permata Sari²

Fakultas Keperawatan, Universitas Indonesia, Indonesia

**email: mepsaputra1@gmail.com*

Article history

Postes, Feb 16th, 2024

Reviewed, Mar 2nd, 2024

Received, Mar 27th, 2024

ABSTRACT

Introduction: Stunting is a chronic nutritional disorder in toddlers that inhibits growth and development. There are several efforts to prevent and overcome stunting, one of which is empowering Community Health Workers. Objective: This research will identify the research results regarding the effect of empowering Community Health Workers on reducing stunting in toddlers. Method: This research uses a Systematic Review methodology by searching for articles from PubMed, ScienceDirect, Scopus, Clinical Key, and ProQuest. The article search technique uses the PRISMA method. Results: 7 suitable articles were found, which prove that the Community Health Workers approach influences reducing stunting in toddlers. Conclusion: Empowering health workers can be used as a community-based approach to reducing stunting. Keywords: Child growth, Community health orkers, Stunting

ABSTRAK

Pendahuluan: Stunting merupakan gangguan gizi kronis pada balita yang menghambat pertumbuhan dan perkembangan. Terdapat beberapa upaya pencegahan dan penanggulangan stunting, salah satunya adalah pemberdayaan kader kesehatan. Tujuan: penelitian ini akan mengidentifikasi hasil penelitian mengenai pengaruh pemberdayaan kader kesehatan terhadap penurunan stunting pada balita. Metode: penelitian ini menggunakan metodologi systematic review dengan melakukan pencarian artikel yang berasal dari pubmed, sciencedirect, scopus, clinicalkey dan proquest. Teknik pencarian artikel menggunakan metode PRISMA. Hasil: ditemukan 7 artikel yang sesuai, yang membuktikan bahwa pendekatan kader kesehatan memiliki pengaruh terhadap penurunan stunting pada balita. Hasil dan Simpulan: Pemberdayaan kader kesehatan dapat dijadikan sebagai salah satu pendekatan berbasis komunitas dalam penurunan stunting.

Kata Kunci: *Kader Kesehatan; Pertumbuhan Balita; Stunting*

INTRODUCTION

Stunting is the disturbed growth and development that children experience from repeated infection, poor nutrition, and inadequate psychosocial stimulation (WHO, 2015). Globally, the prevalence of stunting among children under five years of age in 2022 is 22.3%. The prevalence of stunting in Indonesia in 2022 is 31.0%, which is still far from global target (WHO, 2023). Meanwhile, based on the 2022 Survei Status Gizi Indonesia (SSGI) results, the prevalence of stunting in Indonesia is 21.6%. This achievement figure is still below the stunting reduction target set by the Indonesian government in 2024, namely 14.0% (Kementerian Kesehatan RI, 2023).

Stunting can have both short and long-term consequences. The short-term impact of stunting is an increasing risk of child mortality and morbidity and a decrease in children's cognitive, motor skills and language development. Moreover, the long-term consequences of stunting are growth disorders such as decreasing stature when growing up, increasing the risk of obesity, and the risk of comorbidities, while the impact on child development such as reduction of children's performance in school, children's learning capacity, and decreasing the work capacity and productivity (WHO, 2017).

The problem of stunting is very complex and requires particular intervention collaborates with all various health and non-health sectors partnership. The World Health Organization (WHO) gives two recommended approaches to handling stunting: nutrition-sensitive interventions and nutrition-specific intervention models for stunting prevention. There are two intervention models for handling stunting: supplements and community-based nutrition services. Community-based nutrition services to prevent and control stunting in children are carried out through education and health promotion. This program can be carried out by health workers collaborating with trained community health workers to provide behavior-change communication services in households, villages, or community groups (WHO, 2018). So, one of the recommended interventions in preventing and reducing stunting is empowering community health workers.

The International Labor Organization (ILO) has created a standard definition of a community health worker. Indonesian community health workers volunteer at Kader's, who are health workers who "provide health education, referral and follow-up, case management, basic preventive health services and home visit services in certain communities. The

community health workers help individuals and families to achieve health” (ILO, 2012). Community health workers have various roles, such as providing education and promotion of nutrition, promotion of family planning, promotion of support for essential antenatal and postnatal health services, immunization, and others. Community health workers also actively promote hygiene, healthy household practices, and the use of health facilities to overcome health problems. One of the everyday tasks of community health workers, especially in low-middle-income countries, is to provide programs to prevent and overcome children's nutrition, growth, and development problems, such as stunting (Perry, 2020). Community nurses have an important role in community empowerment programs, such as empowering community health workers. The implementation of community nurses' partnership and empowerment role is through Community Health Nursing or Perawat Kesehatan Masyarakat. One of the important tasks is to motivate the training, mentoring and supervision role of the community health workers (Kementerian Kesehatan RI, 2006).

METHOD

This research uses a systematic review methodology. Article searches were carried out on open access electronic database

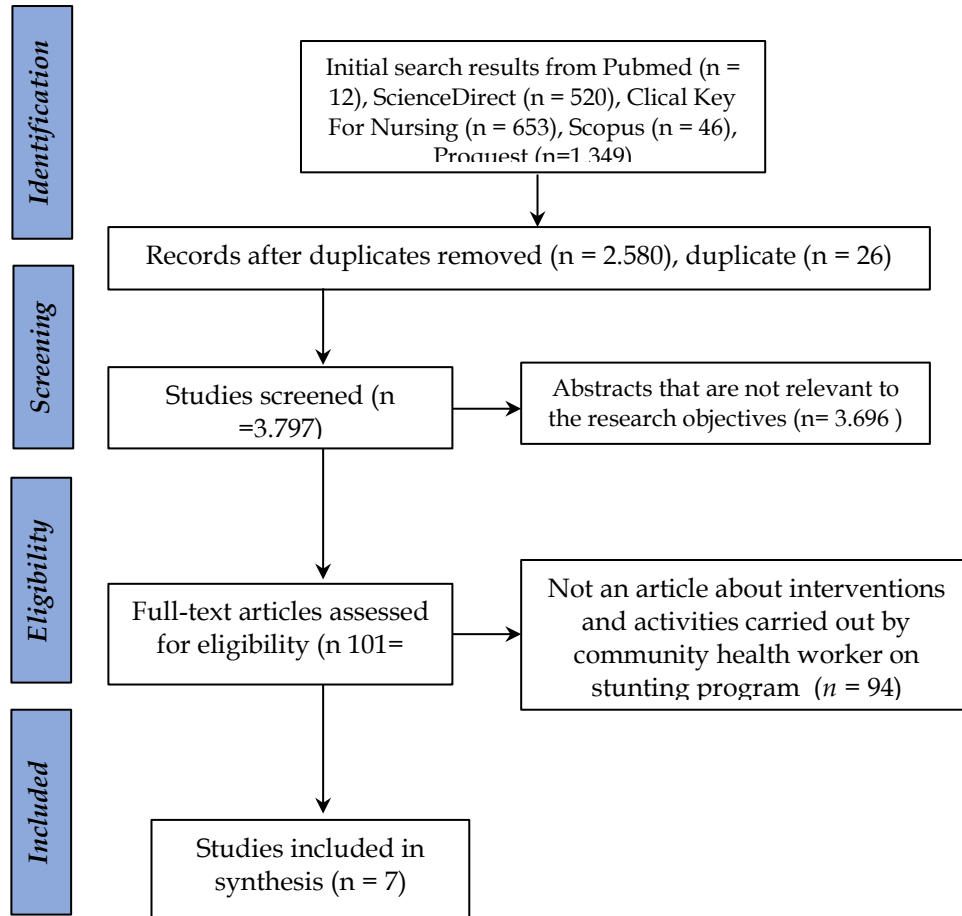
search engines such as PubMed, ScienceDirect, Clinical Key for Nursing, Scopus and ProQuest using the keywords (“Child” OR “Children”) AND (“Community Health Worker” OR “Village Health Worker” OR “Health Cadres”) AND (Stunting OR Stunted OR “Growth disorder”). Article searches do not use hand searching techniques. The inclusion criteria in the systematic literature search are as follows:

1. Articles published in the last ten years between 2015 – January 2024
2. Articles accessible as full text
3. Research articles on randomized controlled trials, clinical trials, and quasi experiments.
4. Explain the influence of the community health worker approach on reducing stunting cases among toddlers.
5. English article

The systematic literature search process is carried out in several stages. The first stage is searching the articles using keywords and selecting them according to inclusion and exclusion criteria to obtain articles relevant to the research objectives. The next stage is the article selection process using the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA)

flow diagram, including identification, screening, eligibility, and stages.

Figure 1: Prisma Flow Chart



RESULTS AND DISCUSSION

This systematic review uses seven selected articles to analyse the empowerment of

Community Health Workers in preventing and reducing stunting.

Table 1. Article Review Results

No	Title, Author & year	Design	Results
1	<i>Evaluation of a community health worker home visit intervention to improve child development in</i>	<i>a cluster-randomized controlled</i>	The intervention did not have a significant impact on HAZ (adjusted mean differential (AMD) 0.11 [95% confidence interval (CI): -0.07, 0.30]; p = 0.220) or stunting (adjusted odds

	<i>South Africa: A cluster-randomized controlled trial.</i>		ratio (aOR) 0.63 [0.32, 1.25]; p = 0.184),
	Rockers, PC. et al.		
	South Africa, 2023		
2	<i>A Community Health Worker Based Intervention on Anthropometric Outcomes of Children Aged 3 to 21 Months in Urban Pakistan, 2019-2021</i>	<i>a randomized controlled trial</i>	Compared with the control group, the height-for-age z score in the IHGMC group increased by 0.58 SD (95% confidence interval [CI] 5 0.33, 0.83; P 5 .001) and the weight-for-age z score of 0.43 SD (95% CI 5 0.20, 0.67; P < 0.01), measured at endline.
	Authors: Abu S. Shonchoy, AS. et al.		
	Pakistan, 2023		
3	<i>Effect of maternal nutritional education and counselling on children's stunting prevalence in urban informal settlements in Nairobi, Kenya</i>	<i>cluster randomized controlled trial</i>	The age-adjusted body length z score decreased from birth to the 13th month, on average – 1.42 (SD 2.04), with the control group (33.5 %) reporting a significantly more significant increase in stunting prevalence than the intervention group (28.6 %).
	Authors: Nyamaseg, CK. et al.		
	Kenya, 2020		
4	<i>Impact of an Integrative Nutrition Package through Home Visit on Maternal and Children Outcome: Findings from Locus Stunting in Yogyakarta, Indonesia</i>	<i>experimental study using pre-test and post-test with control group design.</i>	The GEE analysis found that regression-adjusted DID showed statistically significant improvement in all outcomes, including child development scores (CDS). Adjusted differences in differences (DID) effects (95% CI) at week 8 for weight, height, and child development scores were 0.31 (0.25–0.37), 0.41 (0.13 – 0.68), and –0.40 (–0.59–(–0.21)), respectively, among the intervention groups.
	Authors: Siswati, T. et al		
	Indonesia, 2022		
5	<i>Community health workers' impact on maternal and child health outcomes in rural South Africa: a non-randomized two-group comparison study.</i>	<i>non-randomized two-group comparison study</i>	Mothers who received the intervention were significantly more likely to provide exclusive breastfeeding for six months (OR: 1.8; 95% CI: 1.1, 2.9), had a lower chance of mixing formula milk with baby porridge (considered detrimental) (OR: 0.4; 95 % CI: 0.2, 0.8) and less likely to consult a shaman. Mothers living with HIV were more compliant with co-trimoxazole
	Authors: Roux, KWL. et al. 1		
	South Africa, 2020		

			prophylaxis ($p < 0.01$). Children in the intervention group were significantly less likely to experience wasting (OR: 0.5; 95% CI 0.3–0.9) and had fewer symptoms of common childhood illnesses in the previous two weeks (OR: 0.8; 95% CI: 0.7,0.9).
6	<i>Developmental outcomes of an individualized complementary feeding intervention for stunted children: a substudy from a larger randomized controlled trial in Guatemala</i>	<i>a randomized controlled trial</i>	The change for the subscale was 0.45 (95% CI 0.23 to 0.67) z-score in the intervention and 0.43 (95% CI 0.25 to 0.61) in the usual care group.
	Authors: Martínez, B. et al		
	Guatemala, 2018		
7	<i>Effect of short-term educational intervention on complementary feeding index among infants in rural Bangladesh: a randomised control trial</i>	<i>a randomized controlled trial</i>	<i>The complementary feeding index (CFI) increases the height-for-age z score by 0.07 units and reduces the weight-for-age (WAZ) by 0.13 units in the intervention group but did not change significantly in the comparison group.</i>
	Authors: Rahman, A., Bhuiyan, M.B. and Das, S.K.		
	Bangladesh, 2022		

Researchers identified several topics on the role and programs of *community health workers* that have an impact on preventing and reducing *stunting*: Community health workers in the *Ward-Based Outreach Teams (WBOT)* program collaborate with child caregivers to conduct home visit interventions in South Africa. CHWs in the intervention group were trained on child health, nutrition, development, and encouragement to engage in play-based activities appropriate to the child's

developmental stage. CHWs also carry out routine monthly home visits and collaborate with caregivers among children under two years of age. Meanwhile, CHWs in the control group only provided standard health services. The main results of this study find that the CHW home visit intervention impacts Height for Ages z Score (HAZs) and reduces stunting, but it is not statistically significant. This research can contribute to the literature on the positive impact of home-visiting interventions on child

development in developing countries (Rockers et al., 2023).

Community health workers monitor child growth through nutritional counselling, namely the "in-home growth monitoring with counselling" (IHGMC) intervention in Pakistan. Community health workers carry out home visits by providing nutritional counselling for six months to stunted children aged under five years in rural areas. This IHGMC intervention has a significant effect on the anthropometric score of *Height for Ages z Score* (HAZs), such as the prevalence of moderate stunting was reduced by 10%, and the prevalence of severe stunting was reduced by 5% in the intervention group compared to the control group (Shonchoy et al., 2023). However, other studies have different results; for example, the growth monitoring intervention in the *Home-Based Growth Monitoring* (HBGM) program has a limited effect on children's height and development. This is because this intervention does not explicitly involve trained community health workers in monitoring the growth and development of toddlers but is carried out by the people and mothers who have children, so HBGM does not have much impact on stunted children (Fink et al., 2017). This result shows that growth monitoring among toddlers at home can impact feeding

practices and has a limited effect on height, so treatment needs longer.

The selected community health workers received standardised training from the government regarding nutritional nutrition for mothers, babies, and toddlers. The intervention group received monthly dietary education and counselling (NEC) from community health workers using counselling assistance cards for parents and child caregivers during pregnancy and infancy. This home-based community health workers approach improves *Height for Ages z Score* (HAZs) in toddlers 0-13 months. It reduces the prevalence of stunting among toddlers in the intervention group compared to the control group (Nyamasege et al., 2021).

The research also proves the effectiveness of trained community health workers who provide complementary food counselling to mothers or caregivers in Indonesia. A study compared the intervention and control groups of a community-based stunting intervention. The intervention group was given an *Integrative Nutrition Package* (INP), which included maternal education, behaviour changes through home visits and monitoring of children's growth and development. In contrast, the control group was asked to read and follow childcare procedures in the *Maternal and Child*

Health (MCH) book as a standard procedure. Both groups were visited by trained *community health workers* and had a *Complimentary Food* (CF) plan every week for four weeks. The results of this study show increased knowledge and practice of *Children's Growth Monitoring* (CGM), *Children's Development Monitoring* (CDM), and *Infant and Young Children Feeding* (IYCF), as well as children's outcomes related to *Body Weight* (BW) and *Body Height* (BH) and improve *Children's Development Score* (SDC) in the follow-up period. The results of home visits have a consistently significant effect on *Body Height* (BH) (Siswati et al., 2022).

A home visiting program by community health workers was also proven effective in maternal and child health, including stunting in rural areas in South Africa from 2014 to 2017. The participants in this study were mothers assigned based on clinic locations: Mapuzi and Tshezi clinics, an area frequently visited by community health workers, as the intervention group and the Wilo and Luthubeni clinics as the control group, which received standard clinical services and did not have community health workers. Community health workers are tasked to encourage mothers to attend regular prenatal check-ups, immunisation, and weight checks regularly. They also

provide exclusive breastfeeding for six months, advising mothers on the health care system and infant feeding. This study has no significant differences in child height for age observed between the intervention and comparison groups. However, the study is considered important for community health workers' home visiting programs in rural compared to urban areas in South Africa. Mothers who are visited by community health workers up to 6 months after giving birth can have the impact of providing exclusive breastfeeding for longer, have more frequent antenatal check-ups, and are much less likely to experience wasting at the age of 6 months (Le Roux et al., 2020).

A study by Martinez (2018) examined the impact of intensive community health workers on complementary breastfeeding interventions in Guatemala. This research was conducted on 210 stunted children aged 6-24 months, divided into 104 intervention groups and 106 control groups. Community health workers would promote complementary breastfeeding through home visits to individuals for six months. Intensive complementary feeding does not significantly improve developmental outcomes than usual care in stunted children. However, both interventions significantly impacted developmental outcomes (Martinez et al., 2018).

Community health workers undertake Complementary Feeding (CF) or the provision of adequate and timely complementary food. A study examined the effect of a short-term intervention in promoting complementary breastfeeding practices by community health workers in communities with infant nutritional status problems in rural Bangladesh. Participants received a standard set of information. Then, the community health workers continued the intervention by measuring anthropometric indices (body weight and height) using standard measuring instruments and procedures. Similar refresher sessions are also carried out for nine months. Community health workers also have home visits at 8, 10 and 12 months to provide comparable information and take anthropometric measurements. The results of this study prove that the proportion of stunting and underweight in the intervention group remained lower than the control group at all assessment time points (Rahman, Bhuiyan and Das, 2022).

CONCLUSION

A systematic review of various literature evaluates the impact of the community health workers' empowerment approach in preventing and reducing stunting. This approach has multiple impacts; most of it has a significant impact through the different

methods. The results of this research can provide suggestions for nurses in carrying out community-based interventions and advice for policymakers in empowering communities on stunting issues.

ACKNOWLEDGEMENT

Thank you to the Dean of the Faculty of Nursing, University of Indonesia, Department of Community Nursing of the Faculty of Nursing, University of Indonesia, and all parties who have helped.

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